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REPORT TO THE LEGISLATURE
JANUARY 1993

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RECLAMATION AND DEVELOPMENT GRANTS PROGRAM

REPORT TO THE LEGISLATURE

Projects Proposed for the 1994-1995 Biennium

and

Status Report of 1987-1991 Projects

January 1993

Montana Department of Natural Resources and Conservation
Conservation and Resource Development Division
1520 East Sixth Avenue
Helena, Montana 59620-2301

ABBREVIATIONS

AMD	acid mine drainage
ARCO	Atlantic Richfield Company
ASCS	Agricultural Stabilization and Conservation Service, U.S. Department of Agriculture
BLM	Bureau of Land Management, U.S. Department of the Interior
BMP	best management practice
BOGC	Montana Board of Oil and Gas Conservation
BWQA	Bullhead Water Quality Association
CD	conservation district
CDB	Conservation Districts Bureau, Montana Department of Natural Resources and Conservation
Co.	county
DFWP	Montana Department of Fish, Wildlife and Parks
DHES	Montana Department of Health and Environmental Sciences
DNRC	Montana Department of Natural Resources and Conservation
DSL	Montana Department of State Lands
EA	environmental assessment
EPA	U.S. Environmental Protection Agency
FTE	full-time employee
GIS	Geographic Information System
GPD	gallons per day
gpm	gallons per minute
LIS	Land Information System
MBMG	Montana Bureau of Mines and Geology
MCA	Montana Code Annotated
MDOA	Montana Department of Agriculture
MEIC	Montana Environmental Information Center
Montana Tech	Montana College of Mineral Science and Technology
MSCA	Montana Salinity Control Association
MSU	Montana State University
NIDR	National Institute of Dispute Resolution
NPS	nonpoint source
NPSP	nonpoint source pollution
OSM	Office of Surface Mining, U.S. Department of the Interior
PMC	Plant Materials Center
ppm	parts per million
PRP	potential responsible party
RC&D	Resource Conservation and Development [Area]
RDGP	Reclamation and Development Grants Program
RIT	Resource Indemnity Trust
RITF	Resource Indemnity Trust Fund
RRU	Reclamation Research Unit
SCS	Soil Conservation Service, U.S. Department of Agriculture
USBM	Bureau of Mines, U.S. Department of the Interior
USBR	Bureau of Reclamation, U.S. Department of the Interior
USDA	U.S. Department of Agriculture
USFS	Forest Service, U.S. Department of Agriculture
USGS	Geological Survey, U.S. Department of the Interior
WASTEC	Water, Air, and Soils Testing and Evaluation Center
WGA	Western Governors' Association
WQA	Water Quality Act
WSCT	westslope cutthroat

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INDEX OF PROJECTS SUBMITTED FOR FUNDING IN THE 1994-1995 BIENNIUM

Following is a list of projects submitted for funding in the 1994-1995 biennium. For easy reference, the list is alphabetized by the names of the project sponsors. However, in Chapter II the project summaries and recommendations are presented in the order of their ranking by the Department of Natural Resources and Conservation.

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CHAPTER I

PROGRAM DESCRIPTION AND PROCEDURES

Program Information

The Reclamation and Development Grants Program (RDGP) is a state-funded grant program designed to fund projects that "indemnify the people of the state for the effects of mineral development on public resources and that meet other crucial state needs serving the public interest and the total environment of the citizens of Montana" (Section 90-2-1102, MCA). The program, established by the 1987 Montana Legislature, is administered by the Montana Department of Natural Resources and Conservation (DNRC).

In February 1992, DNRC mailed application materials to all Montana communities, counties, the university system, conservation districts, state agencies, state legislators, and others who might benefit by program participation. The application deadline was May 15, 1992. DNRC received 29 applications for RDGP funding totaling nearly $6.5 million.

The funding source for this program is the interest income from the Resource Indemnity Trust Fund (RITF). This fund, established by Section 15-38-201, MCA, receives proceeds from taxes levied on mineral production. The 1987 Montana Legislature directed that, beginning in state fiscal year 1990, 46 percent of the interest income from RITF must be allocated to the Reclamation and Development Grants Account (approximately $7.85 million for the 1994-1995 biennium). During state fiscal years 1986 through 1993, 87 projects totaling more than $14.9 million have been authorized for funding.

The Reclamation and Development Grants Program Act requires that the governor submit, by the first day of each regular session of the legislature, a list of all grant proposals received with his or her recommended priorities for funding. Administrative rules further provide that DNRC must furnish to the legislature a status report on previously funded projects. This report is the result of those directives.

Project Eligibility

The following excerpts from the Reclamation and Development Grants Program Act (Section 90-2-1112, MCA) establish criteria that projects must meet in order to be eligible for funding.

(1) Except as provided under subsection (2), to be eligible for funding under the Reclamation and Development Grants Program, the proposed project must provide benefits in one or more of the following categories:

(a) reclamation of land, water, or other resources adversely affected by mineral development;

(b) mitigation of damage to public resources caused by mineral development;

(c) research, demonstration, or technical assistance to promote the wise use of Montana minerals, including efforts to make processing more environmentally compatible;

(d) investigation and remediation of sites where hazardous wastes or regulated substances threaten public health or the environment; and

(e) research to assess existing or potential environmental damage resulting from mineral development.

(2) If sufficient eligible and qualified applications satisfying the mineral development objectives provided for in subsection (1) are not received or if there is a crucial state need, the department [DNRC] may evaluate and the governor may recommend that the legislature approve funding for projects that:

(a) enhance Montana's economy through the development of natural resources; or

(b) develop, promote, protect, or further Montana's total environment and public interest, including the general health, safety, welfare, and public resources of Montana citizens and communities.

Applicant Eligibility

Any department, agency, board, commission, or other division of state government or any city, county, or other political subdivision or tribal government within the state may apply for a grant from the Reclamation and Development Grants Program.

Funding Limits

No grant may exceed $300,000. An applicant proposing more than one project may submit a separate application for each. There is no minimum funding limit.

Application Review and Ranking Procedures

The grant applications were evaluated for the proposed projects' technical and financial feasibility, public benefits to be provided, need and urgency, and impacts on the environment. Reviewers included staff members of the department's Resource Development, Conservation Districts, and Water Management Bureaus, with assistance from federal, state, and university personnel having expertise in specific project areas. For each application, a descriptive project summary was written incorporating the concerns, ideas, and comments of the project reviewers; those summaries appear in the Appendix to this report. A less detailed description of each proposed project can be found in Chapter II.

More funds are requested than are available. Therefore, the department ranks feasible projects, so that it can recommend funding priority and funding level to the governor. Evaluation criteria established by the 1987 legislature include, but are not limited to:

1. The degree to which the project will provide benefits in its eligibility category or categories
2. The degree to which the project will provide public benefits
3. The degree to which the project will promote, enhance, or advance the policies and purposes of the Reclamation and Development Grants Program
4. The degree to which the project will provide for the conservation of natural resources

5. The degree of need and urgency for the project
6. The extent to which the project sponsor or local entity is contributing to the costs of the project or is generating additional nonstate funds
7. The degree to which jobs are created for persons who need job training, receive public assistance, or are chronically unemployed
8. Any other criteria DNRC considers necessary to carry out the policies and purposes of the Reclamation and Development Grants Program

Under the ranking system, a proposal could receive a maximum of 215 points. Specific criteria were established for each category to provide consistency. Of the following criteria, public benefits and need and urgency were weighted most heavily.

	Maximum Points Possible
1. Public Benefits	90
2. Need and Urgency	50
3. Appropriateness of Technical Design	40
4. Financial Feasibility	15
5. Project Management Organization	20
Total Possible Points	215

Recommendations

After ranking the projects and recommending funding, the Conservation and Resource Development Division made its recommendations to the DNRC director. The director then presented DNRC's recommendations to the governor. The final ranking of the proposed projects is presented in Table 1, along with funding recommendations. The locations of the 21 projects recommended for funding are shown in Figure 1.

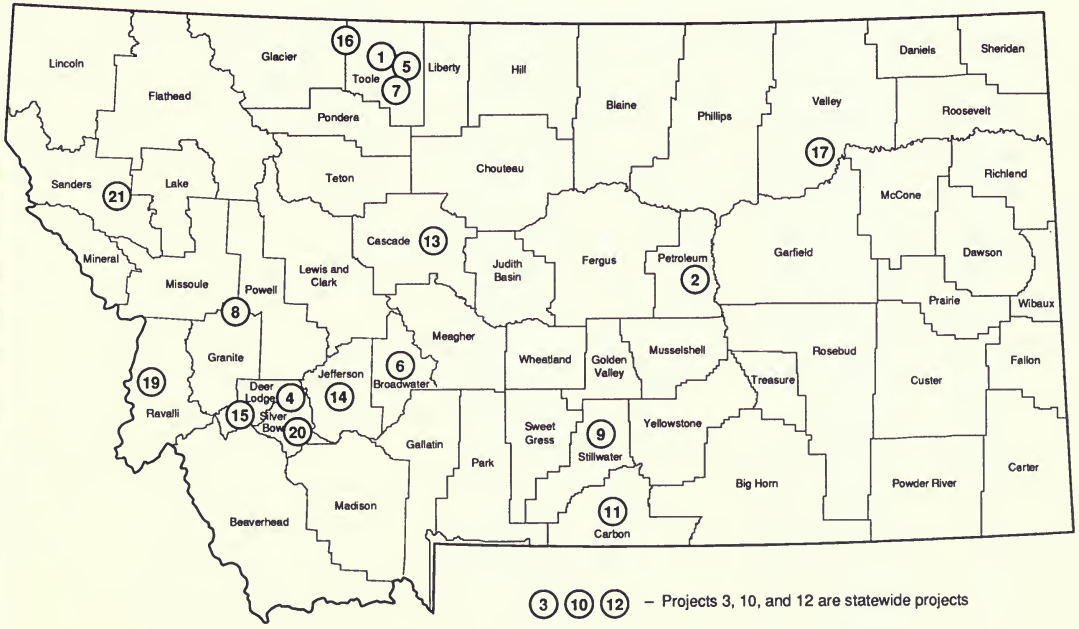
An appropriations bill listing the governor's recommendations will be introduced to the 1993 legislature. By appropriation or other appropriate means, the legislature may approve grants for those projects it finds consistent with the policies and purposes of RDGP.

TABLE 1
RECLAMATION AND DEVELOPMENT GRANTS PROGRAM
Project Recommendations
Fiscal Years 1994-95

Rank/Applicant	Project Name	Recommended Funding	Accumulative Funding
1 BOARD OF OIL & GAS CONSERVATION	Kevin-Sunburst Plugging & Reclamation Project	$299,000	$299,000
2 BOARD OF OIL & GAS CONSERVATION	Cat Creek Plugging & Reclamation Project	$214,810	$513,810
3 GOVERNOR/LT. GOVERNOR'S OFFICES	The Montana Office of Public Policy Dispute Resolution	$127,667	$641,477
4 TOWN OF WALKERVILLE	Walkerville Reclamation Project	$75,569	$717,046
5 DEPT. OF STATE LANDS	Well Assessment and Abandonment—Oil and Gas	$211,800	$928,846
6 BROADWATER CONSERVATION DISTRICT	Whites Gulch Placer Mine Reclamation Project	$296,300	$1,225,146
7 TOOLE COUNTY	North Toole County Oil Field Reclamation Project	$298,284	$1,523,430
8 DEPT. OF FISH, WILDLIFE AND PARKS	Elk Creek Placer-Mined Channel Reconstruction	$72,850	$1,596,280
9 TOWNS OF COLUMBUS AND JOLIET	Waste Stream Reduction—Oil Recycling	$41,172	$1,637,452
10 MONTANA SALINITY CONTROL ASSOCIATION	Soil and Water Nonpoint Source Pollution Control	$172,250	$1,809,702
11 CARBON COUNTY CONSERVATION DISTRICT	RC&Ds Affecting Change Through Local Leadership	$300,000	$2,109,702
12 DEPT. OF HEALTH AND ENVIRONMENTAL SCIENCES	Nonpoint Source Pollution Control in Montana	$300,000	$2,409,702
13 BUREAU OF MINES AND GEOLOGY	Acid Mine Drainage—Stockett/Sand Coulee Area	$148,623	$2,558,325
14 JEFFERSON VALLEY CONSERVATION DISTRICT	Crystal Mine Remediation Technology Demonstration	$150,000	$2,708,325
15 DEER LODGE VALLEY CONSERVATION DISTRICT	Developing Acid/Heavy Metal-Tolerant Cultivars	$137,700	$2,846,025
16 GLACIER COUNTY CONSERVATION DISTRICT	Evaluation of Groundwater Contamination, Red River	$214,059	$3,060,084
17 VALLEY COUNTY	Fort Peck Reservoir Breakwater	$300,000	$3,360,084
18 DEPT. OF NATURAL RESOURCES AND CONSERVATION	Arsenic Transport & Mobility	$50,000	$3,410,084
19 RAVALLI COUNTY	A Lake for Better Water Quality (Como Lake Dam Rehab.)	$300,000	$3,710,084
20 BUTTE-SILVER BOW	Mitigation of Mining and Smelting Damage—Urban Forestry	$150,000	$3,860,084
21 TOWN OF HOT SPRINGS	Camas Therapy Center	$150,000	$4,010,084
BUTTE-SILVER BOW	Development of a Mine Subsidence Insurance Program	$0	$4,010,084
CROW TRIBE	Lodge Grass School—Coal Mine and Gravel Pit Reclamation	$0	$4,010,084
GALLATIN COUNTY ROAD AND BRIDGE DEPT.	West Gallatin River—Flood Control	$0	$4,010,084
MONTANA DEPT. OF STATE LANDS	Expansion of the Geographic Information System	$0	$4,010,084
MONTANA STATE UNIVERSITY/PLACES	Soil Moisture Modeling in Reclaimed Landscapes	$0	$4,010,084
PONDERA COUNTY CONSERVATION DISTRICT	Lake Francis Shoreline Rehabilitation Project	$0	$4,010,084
RICHLAND COUNTY CONSERVATION DISTRICT	Water Development and Management (Neutron Probe)	$0	$4,010,084
SHERIDAN COUNTY CONSERVATION DISTRICT	Extent of Oil Field Waste Contamination	$0	$4,010,084

Figure 1

RECLAMATION AND DEVELOPMENT GRANTS PROGRAM
LOCATION OF PROJECTS RECOMMENDED FOR FUNDING



CHAPTER II

PROJECT SUMMARIES AND RECOMMENDATIONS FOR THE 1994-1995 BIENNIUM

Summaries of all projects submitted for RDGP funding, along with the amounts recommended, are presented in this chapter. The summaries of projects recommended for funding appear in the order in which those projects are ranked. Not all proposals are recommended for funding; the summaries of those projects are alphabetized by the name of the applicant and presented at the end of this chapter.

Figure 2 at the end of this chapter illustrates the number of applications received by applicant type.

PROJECT NO. 1

APPLICANT NAME : Montana Board of Oil and Gas Conservation

PROJECT/ACTIVITY NAME : Kevin-Sunburst Plugging and Reclamation Project

SUMMARY : The Board of Oil and Gas Conservation (BOGC) proposes to plug the well bore and reclaim the surface at 26 abandoned oil and gas test well sites in Toole and Liberty Counties. The wells pose a threat to groundwater and surface water quality, oil and gas production zones, and surface vegetation. This project is part of BOGC's ongoing program to identify and plug abandoned, problem well sites. BOGC has submitted a separate, but similar, grant application for the Cat Creek Field in Petroleum County.

AMOUNT REQUESTED :	$ 299,000
OTHER FUNDING SOURCES AND AMOUNTS :	
Project Sponsor	$ 5,300
TOTAL PROJECT COST :	$ 304,300
RECOMMENDED FUNDING :	$ 299,000

PROJECT NO. 2

APPLICANT NAME : Montana Board of Oil and Gas Conservation

PROJECT/ACTIVITY NAME : Cat Creek Plugging and Reclamation Project

SUMMARY : The Board of Oil and Gas Conservation (BOGC) proposes to plug the well bore and reclaim the surface at three abandoned oil and gas well sites in Petroleum County. The wells pose a threat to groundwater and surface water quality, oil and gas production zones, and surface vegetation. A fourth location, containing an oil tank and miscellaneous junk and debris, would also be reclaimed. The project is part of BOGC's ongoing program to identify and plug abandoned, problem well sites. BOGC has submitted a separate, but similar, grant application for the Kevin-Sunburst Field in Toole and Liberty Counties.

AMOUNT REQUESTED :	$ 214,810
OTHER FUNDING SOURCES AND AMOUNTS :	
Project Sponsor	$ 2,000
TOTAL PROJECT COST :	$ 216,810
RECOMMENDED FUNDING :	$ 214,810

PROJECT NO. 3

APPLICANT NAME : Governor/Lieutenant Governor's Offices

PROJECT/ACTIVITY NAME : The Montana Office of Public Policy Dispute Resolution

SUMMARY : The Governor/Lieutenant Governor's Offices propose to establish an Office of Public Policy Dispute Resolution. The office would provide consultation, training, and mediation services designed to resolve complex, multi-party natural resource issues. This two-year pilot program would be part of a regional program involving Montana, four adjacent states, and three Canadian provinces. Services would be provided to affected interests upon request. The state and regional programs plan to evolve into a public/private, nonprofit corporation.

AMOUNT REQUESTED :	$ 127,667
OTHER FUNDING SOURCES AND AMOUNTS :	
National Institute for Dispute Resolution	$ 50,000
Western Governors' Association	$ 40,000
TOTAL PROJECT COST :	$ 217,667
RECOMMENDED FUNDING :	$ 127,667

PROJECT NO. 4

APPLICANT NAME : Town of Walkerville

PROJECT/ACTIVITY NAME : Walkerville Reclamation Project

SUMMARY : Recent reclamation of mining wastes in Walkerville has improved the environmental quality of the area, but eliminated recreational opportunities. This project would mitigate destruction of the town's former ball field facility by constructing a new facility at an environmentally safe location. Soils at the proposed site have been sampled for elevated levels of heavy metals and are below EPA action levels. The reclamation proposed would help improve and protect the health of area youth and the environment and further RDGP's goal of mitigating damage to public resources caused by mineral development. EPA has no current plans to replace the former ball field.

AMOUNT REQUESTED :	$ 75,569
OTHER FUNDING SOURCES AND AMOUNTS :	
Project Sponsor	$ 2,500
ARCO	$ 6,900
New Butte Mining	$ 6,900
Butte-Silver Bow Government	$ 6,900
TOTAL PROJECT COST :	$ 98,769
RECOMMENDED FUNDING :	$ 75,569

PROJECT NO. 5

APPLICANT NAME : Montana Department of State Lands (DSL)

PROJECT/ACTIVITY NAME : Well Assessment and Abandonment—Oil and Gas

SUMMARY : The Department of State Lands (DSL) proposes to assess the condition of 26 oil and gas wells located on a state section one mile east of Oilmont. Many of these wells are in poor condition (leaks, corrosion, defective casing, etc.), posing a threat to groundwater, production zones, and the surrounding surface. Problem wells would be plugged and the surrounding surface reclaimed. Wells capable of production would be capped for later use. Revenues generated would benefit the School Trust Fund.

AMOUNT REQUESTED :	$ 211,800
OTHER FUNDING SOURCES AND AMOUNTS :	
Project Sponsor	$ 6,089
TOTAL PROJECT COST :	$ 217,889
RECOMMENDED FUNDING :	$ 211,800

PROJECT NO. 6

APPLICANT NAME : Broadwater Conservation District

PROJECT/ACTIVITY NAME : Whites Gulch Placer Mine Reclamation Project

SUMMARY : Broadwater Conservation District proposes to reclaim approximately two miles of stream channel in Whites Gulch, north of Townsend. The stream contains a genetically pure strain of westslope cutthroat trout threatened by impacts caused by past placer mining activities. Implementation of the stream stabilization measures proposed would protect and possibly enhance populations of this sensitive species, decrease sedimentation, and improve water quality.

AMOUNT REQUESTED :	$ 296,300
OTHER FUNDING SOURCES AND AMOUNTS :	
U.S. Forest Service, DFWP, Trout Unlimited, and EPA	$ 52,600
TOTAL PROJECT COST :	$ 348,900
RECOMMENDED FUNDING :	$ 296,300

PROJECT NO. 7

APPLICANT NAME : Toole County

PROJECT/ACTIVITY NAME : North Toole County Oil Field Reclamation Project

SUMMARY : Toole County proposes to reclaim areas in northern Toole County adversely impacted by past oil and gas development activity. The work would involve inventory and site selection, removal and burial of structures and debris, drilling of monitoring wells, treatment of contaminated soils, disposal of oil sludge material, and revegetation. Plugging of oil and gas wells is not contemplated. This is an ongoing project funded by RDGP for the past four bienniums. Funding of this request, when added to previous work, would result in cleanup of approximately 21 percent of the total area targeted for cleanup.

AMOUNT REQUESTED :	$ 298,284
OTHER FUNDING SOURCES AND AMOUNTS :	
Project Sponsor	$ 13,692
TOTAL PROJECT COST :	$ 311,976
RECOMMENDED FUNDING :	$ 298,284

PROJECT NO. 8

APPLICANT NAME : Montana Department of Fish, Wildlife and Parks (DFWP)

PROJECT/ACTIVITY NAME : Elk Creek Placer-Mined Channel Reconstruction

SUMMARY : The Department of Fish, Wildlife and Parks (DFWP) proposes to reconstruct approximately 3,000 feet of the Elk Creek stream channel. The site is located on BLM land about one mile east of Garnet. Past placer mining activity has destroyed the original channel and eliminated any surface flow along three reaches. The fishery resource and spawning habitat have been directly impacted. Reestablishment of the stream channel and riparian area would restore the fishery, improve water quality, and increase recreation potential. The project would serve as a demonstration site on how to implement best management practices on streams damaged by placer mine operations.

AMOUNT REQUESTED :	$ 72,850
OTHER FUNDING SOURCES AND AMOUNTS :	
Project Sponsor	$ 1,000
Federal Bureau of Land Management	$ 18,400
TOTAL PROJECT COST :	$ 92,250
RECOMMENDED FUNDING :	$ 72,850

PROJECT NO. 9

APPLICANT NAME : Town of Columbus and Town of Joliet

PROJECT/ACTIVITY NAME : Waste Stream Reduction—Oil Recycling

SUMMARY : The Towns of Columbus and Joliet in collaboration with Beartooth RC&D propose a three-prong attack to reduce the area's waste stream: (1) demonstration prototypes of bioconversion, (2) waste oil recycling, and (3) recycling market assistance. This project seeks to demonstrate alternatives to burning, landfilling, and composting household, industrial, and agricultural wastes. The present proposal is a follow-up of an educational and recycling effort funded by RDGP in 1991.

AMOUNT REQUESTED :	$ 220,084
OTHER FUNDING SOURCES AND AMOUNTS :	
Project Sponsor	$ 7,060
Soil Conservation Service	$ 13,972
Participating Farmers	$ 4,000
TOTAL PROJECT COST :	$ 245,116
RECOMMENDED FUNDING :	$ 41,172

PROJECT NO. 10

APPLICANT NAME : Montana Salinity Control Association

PROJECT/ACTIVITY NAME : Soil and Water Nonpoint Source Pollution Control and Management

SUMMARY : The Montana Salinity Control Association (MSCA), representing 33 Montana counties, proposes to provide statewide technical assistance and education programs for soil and water nonpoint source pollution control and management. These efforts would focus on prevention, control, and reclamation of salinity resulting from mineral extraction and agricultural activities. State-of-the-art methods in hydrogeologic site characterization, recharge area identification, and soil, water, and vegetation sampling and monitoring would be used. This is an ongoing program funded by RDGP the past four bienniums for a total of $800,000. This request would allow fieldwork and development of reclamation plans at 30 new sites, with follow-up and education for current participants and the general public.

AMOUNT REQUESTED :	$ 300,000
OTHER FUNDING SOURCES AND AMOUNTS :	
Project Sponsor	$ 177,225
DNRC/Conservation Districts Bureau	$ 200,000
TOTAL PROJECT COST :	$ 677,225
RECOMMENDED FUNDING :	$ 172,250

PROJECT NO. 11

APPLICANT NAME : Carbon County Conservation District

PROJECT/ACTIVITY NAME : RC&Ds Affecting Change Through Local Leadership

SUMMARY : Carbon County Conservation District proposes to assist in funding the preparation of regional and statewide rural economic development plans. The plans, prepared by local RC&Ds and the Montana RC&D Association, would focus on identifying local needs and developing local solutions. A series of planning/leadership workshops aimed at RC&D council members is scheduled. The ultimate goal of this program is to establish RC&Ds as Montana's rural economic development delivery vehicle through local leadership, coordination, and technical assistance. Currently, Montana has five established RC&Ds with a sixth scheduled for start-up in winter 1994. An estimated 35 projects would be developed and implemented by mid-1995 and generally would include rural economic development, community improvement, forestry, recreation and tourism, water quantity and quality, and information and education.

AMOUNT REQUESTED :	$ 300,000
OTHER FUNDING SOURCES AND AMOUNTS :	
Local RC&D/SCS Operations	$ 301,270
TOTAL PROJECT COST :	$ 601,270
RECOMMENDED FUNDING :	$ 300,000

PROJECT NO. 12

APPLICANT NAME : Montana Department of Health and Environmental Sciences/Water Quality Bureau

PROJECT/ACTIVITY NAME : Nonpoint Source Pollution Control in Montana

SUMMARY : The Department of Health and Environmental Sciences, Water Quality Bureau is requesting funds to continue Montana's voluntary Nonpoint Source Pollution (NPSP) Program. The Montana plan for NPSP calls for the implementation of watershed projects targeting agriculture, mining, and forestry practices and emphasizing that best management practices (BMPs) be installed that complement riparian zone management and surface water and groundwater protection strategies. Funds would be used for project implementation, water body assessment, and educational materials/technical assistance. Sites that are currently being considered for prioritization as demonstration projects are Big Otter Creek (Cascade and Judith Basin Counties); Deep Creek (Broadwater County); Careless Creek (Musselshell County); Nevada Creek (Powell County); Smith River (Meagher County); and Little Powder River (Powder River County). The ultimate objective of reducing NPS pollution statewide would result in improved water quality, decreased soil erosion, improved wildlife habitat, decreased water treatment costs, and improved public and private land and water management. Projects would be implemented by local conservation districts.

AMOUNT REQUESTED :	$ 300,000
OTHER FUNDING SOURCES AND AMOUNTS :	
Environmental Protection Agency	$ 1,245,102
Landowners	$ 225,600
Private Foundation	$ 100,000
Soil Conservation Service	$ 70,000
Project Sponsor	$ 60,580
Conservation Districts	$ 8,200
TOTAL PROJECT COST :	$ 2,009,482
RECOMMENDED FUNDING :	$ 300,000

PROJECT NO. 13

APPLICANT NAME : Montana Bureau of Mines and Geology

PROJECT/ACTIVITY NAME : Acid Mine Drainage Prevention, Control, and Treatment Technology Development for the Stockett/Sand Coulee Area

SUMMARY : The Montana Bureau of Mines and Geology proposes to investigate appropriate technologies for the prevention, control, and remediation of acid mine drainage in the Stockett/Sand Coulee area. The investigation would include a thorough hydrological inventory, sampling, and assessment; evaluation and design of possible prevention techniques; implementation of promising techniques at selected mine sites; and monitoring of the success or failure of the implemented techniques. The results and recommendations would be published in a bureau publication.

AMOUNT REQUESTED :	$ 297,245
OTHER FUNDING SOURCES AND AMOUNTS :	
Project Sponsor	$ 101,638
Department of State Lands	$ 28,429
TOTAL PROJECT COST :	$ 427,312
RECOMMENDED FUNDING :	$ 148,623

PROJECT NO. 14

APPLICANT NAME : Jefferson Valley Conservation District

PROJECT/ACTIVITY NAME : Crystal Mine Remediation Technology Demonstration

SUMMARY : The Jefferson Valley Conservation District proposes to conduct a study examining acid mine drainage (AMD) treatment technologies. The project would be closely affiliated with the EPA-funded Mine Waste Pilot Program administered by MSE, Inc., in Butte. A field demonstration of AMD technology at the Crystal Mine near Basin is planned, with follow-up dissemination of project findings through meetings, tours, publications, etc.

AMOUNT REQUESTED :	$ 300,000
OTHER FUNDING SOURCES AND AMOUNTS :	
Environmental Protection Agency	$ 677,000
Headwaters RC&D	$ 4,996
TOTAL PROJECT COST :	$ 981,996
RECOMMENDED FUNDING :	$ 150,000

PROJECT NO. 15

APPLICANT NAME : Deer Lodge Valley Conservation District

PROJECT/ACTIVITY NAME : Developing Acid/Heavy Metal-Tolerant Cultivars for Mine Reclamation

SUMMARY : The Deer Lodge Valley Conservation District proposes to conduct two initial stages of a long-term effort to make acid/heavy metal-tolerant native plant species available to commercial seed growers. The two-year CD project would involve collection of native plant species with subsequent establishment of test plots and evaluation at two sites (near Anaconda and East Helena). Stages 3 to 5 (seed production, field testing, and release to commercial growers) would be conducted by USDA. Completion of the entire project should take six or more years. The availability of acid- and heavy metal-tolerant plant species would increase chances of reclamation success at drastically impacted mine sites.

AMOUNT REQUESTED :	$ 137,700
OTHER FUNDING SOURCES AND AMOUNTS :	
Project Sponsor	$ 2,300
USDA/SCS Plant Materials Center	$ 60,580
Soil and Water Conservation Districts of Montana, Inc.	$ 10,860
TOTAL PROJECT COST :	$ 211,440
RECOMMENDED FUNDING :	$ 137,700

PROJECT NO. 16

APPLICANT NAME : Glacier County Conservation District

PROJECT/ACTIVITY NAME : Comprehensive Evaluation of Groundwater Contamination, Red River Drainage

SUMMARY : Glacier County Conservation District proposes to conduct a study of groundwater contamination due to oil field and agricultural activities within a 55,000-acre area surrounding the Red River drainage. The study would evaluate current groundwater quality and compare this with historical data to determine the presence or absence of water quality trends. The evaluation would also provide baseline data to assist in evaluation of future groundwater impacts due to oil field and agricultural operations. Hydrogeological investigations would be conducted at selected sites. Where water supplies are judged to be vulnerable, sampling and analysis would be conducted. A final report would include study conclusions and recommendations for remediation. The Montana Bureau of Mines and Geology would conduct this study under contract to the conservation district.

AMOUNT REQUESTED :	$ 214,059
OTHER FUNDING SOURCES AND AMOUNTS :	
Project Sponsor	$ 16,407
MBMG	$ 83,454
TOTAL PROJECT COST :	$ 313,920
RECOMMENDED FUNDING :	$ 214,059

PROJECT NO. 17

APPLICANT NAME : Valley County

PROJECT/ACTIVITY NAME : Fort Peck Reservoir Breakwater

SUMMARY : Valley County proposes to construct an 800-foot earthen embankment (breakwater) across Perch Bay, which is located approximately one mile west of Fort Peck Dam. The breakwater would protect water craft and shore facilities from damaging wave action during inclement weather. Increased recreational opportunity and safe harborage for boat launching are the project's major objectives. The project would be a start in recognizing and developing the lake's recreational potential and may stimulate further development.

AMOUNT REQUESTED :	$ 300,000
OTHER FUNDING SOURCES AND AMOUNTS :	
DNRC Water Development Grant (applied for)	$ 100,000
Corps of Engineers	$ 400,000
TOTAL PROJECT COST :	$ 800,000
RECOMMENDED FUNDING :	$ 300,000

PROJECT NO. 18

APPLICANT NAME : Montana Department of Natural Resources and Conservation/Water Management Bureau

PROJECT/ACTIVITY NAME : Arsenic Transport and Mobility in Surface Water, Irrigated Soils, and Shallow Groundwater of the Upper Missouri River Basin

SUMMARY : The Water Management Bureau of DNRC proposes to study the mobility and transport of arsenic in soils, surface water, and groundwater; develop predictive computer models of mobility and transport; and evaluate effects of resource management on arsenic levels. The project would consist of three

phases: (1) reconnaissance-level inventory of arsenic concentrations in upper Missouri basin soils and groundwater, (2) development of field- and laboratory-based models of arsenic transport in soil profiles and shallow groundwater, and (3) collection of surface water quality data and development of an arsenic transport model. The project results would be used by a variety of resource managers in planning future water and land uses and allocations and would provide health agencies an improved basis for evaluating existing public exposure to arsenic in surface water and groundwater.

AMOUNT REQUESTED :	$ 229,989
OTHER FUNDING SOURCES AND AMOUNTS :	
Project Sponsor	$ 38,333
Montana State University	$ 89,387
U.S. Bureau of Reclamation	$ 220,500
U.S. Geological Survey	$ 158,325
TOTAL PROJECT COST :	$ 736,534
RECOMMENDED FUNDING :	$ 50,000

PROJECT NO. 19

APPLICANT NAME : Ravalli County

PROJECT/ACTIVITY NAME : A Lake For Better Water Quality (Como Lake Dam Rehabilitation)

SUMMARY : Ravalli County proposes to raise the height of Como Dam an additional 9.3 feet. The additional water storage would serve four primary objectives: (1) help improve water quality and the Bitterroot River fishery, (2) dilute high nutrient concentrations in the lower Bitterroot and Clark Fork rivers, (3) provide additional irrigation water during drought to over 785 irrigators on 16,635 acres of land, and (4) add over 220 surface water acres to Como Lake. The U.S. Bureau of Reclamation has commenced safety-related construction activities (August 1992) with completion scheduled for the fall of 1993, but does not have funds for the enlargement. The project would be coordinated by the Bitterroot RC&D.

AMOUNT REQUESTED :	$ 300,000
OTHER FUNDING SOURCES AND AMOUNTS :	
Project Sponsor	$ 56,485
Bitterroot Irrigation District	$ 200,000
Corporate, Foundation, and Private Donors (to be solicited)	$ 1,451,500
Federal (tentative)	$ 3,000,000
TOTAL PROJECT COST :	$ 5,007,985
RECOMMENDED FUNDING :	$ 300,000

PROJECT NO. 20

APPLICANT NAME : Butte-Silver Bow

PROJECT/ACTIVITY NAME : Mitigation of Mining and Smelting Damage through Urban Forestry

SUMMARY : Butte-Silver Bow proposes to purchase and plant 360 trees and shrubs near high traffic areas. This three-year project is designed to mitigate adverse impacts caused by past mining and smelting activities and to visually enhance the gateways, parkways, and streets leading to the uptown. The project represents a part of Butte's overall commitment to improve the community's image, attract visitors, and enhance the economy. The project would complement Butte-Silver Bow's Urban Forestry Program funded by RDGP in 1987.

AMOUNT REQUESTED :	$ 150,000
OTHER FUNDING SOURCES AND AMOUNTS :	
Project Sponsor	$ 24,000
Landscape Architect (In-Kind)	$ 3,000
Volunteers (In-Kind Services)	$ 3,000
Donations	$ 1,000
TOTAL PROJECT COST :	$ 181,000
RECOMMENDED FUNDING :	$ 150,000

PROJECT NO. 21

APPLICANT NAME : Town of Hot Springs

PROJECT/ACTIVITY NAME : Camas Therapy Center

SUMMARY : The Town of Hot Springs in cooperation with CAM Redevelopment Corporation proposes to renovate the old Camas bathhouse and develop a modern hot mineral water therapy center. Major work would include removal of an underground fuel storage tank and asbestos; repair and replacement of heating, plumbing, and electrical systems; site development; new pool and equipment; design fees; structure demolition; and general renovation. The site is currently leased from the Confederated Salish and Kootenai Tribes. This project would eliminate existing health and safety hazards, create substantial job opportunities in a severely distressed local economy, and provide a local health care and therapy facility.

AMOUNT REQUESTED :	$ 300,000
OTHER FUNDING SOURCES AND AMOUNTS :	
Private Funds	$ 50,000
Montana Department of Commerce (Community Development Block Grant)	$ 300,000
Economic Development Administration	$ 900,000
Farmers Home Administration (Loan)	$ 250,000
Small Business Administration (Loan)	$ 250,000
TOTAL PROJECT COST :	$ 2,050,000
RECOMMENDED FUNDING :	$ 150,000

THE FOLLOWING PROJECTS ARE NOT RECOMMENDED FOR FUNDING. THE LIST IS ALPHABETIZED BY THE NAME OF THE PROJECT SPONSOR.

APPLICANT NAME : Butte-Silver Bow

PROJECT/ACTIVITY NAME : Development of a Mine Subsidence Insurance Program

SUMMARY : Butte-Silver Bow government proposes to develop the information needed to establish a mine subsidence insurance program within central Butte. Research would be conducted into the framework, regulatory and technical criteria, and administrative and financial requirements to implement a program intended to insure property against damages caused by land subsidence. The study findings would be presented to the legislature for consideration.

AMOUNT REQUESTED :	$ 123,750
OTHER FUNDING SOURCES AND AMOUNTS :	
Project Sponsor	$ 8,880
TOTAL PROJECT COST :	$ 132,630
RECOMMENDED FUNDING :	$ 0

APPLICANT NAME : Crow Tribe

PROJECT/ACTIVITY NAME : Lodge Grass School—Coal Mine and Gravel Pit Reclamation

SUMMARY : The Crow Tribe proposes to reclaim an abandoned gravel pit and investigate the potential for underground coal mine subsidence affecting the public school. The project would involve design, exploratory drilling, and pit reclamation (including fencing). The area is next to the Lodge Grass Public

School. Fencing of the pit would be designed to reduce the number of children accessing the pit area from across the street, where a school is located.

AMOUNT REQUESTED :	$	299,090
OTHER FUNDING SOURCES AND AMOUNTS :	$	0
TOTAL PROJECT COST :	$	299,090
RECOMMENDED FUNDING :	$	0

APPLICANT NAME : Gallatin County Road and Bridge Department

PROJECT/ACTIVITY NAME : West Gallatin River—Flood Control

SUMMARY : The Gallatin County Road and Bridge Department proposes a project on 45 miles of the West Gallatin River consisting of two stages: (1) a comprehensive engineering study targeted at attainment of "stable" channel flows, and (2) construction of flood control structures. The purposes of the project would be flood control and protection of private residences, agricultural lands, and state and county roads and bridges from flood damage.

AMOUNT REQUESTED :	$	300,000
OTHER FUNDING SOURCES AND AMOUNTS :		
Project Sponsor	$	24,360
TOTAL PROJECT COST :	$	324,360
RECOMMENDED FUNDING :	$	0

APPLICANT NAME : Montana Department of State Lands/Hard Rock Bureau

PROJECT/ACTIVITY NAME : Expansion of the Geographic Information System of the Department of State Lands

SUMMARY : The Department of State Lands/Hard Rock Bureau proposes to purchase and install a Geographic Information System (GIS). The GIS would provide expanded computer capability in assembling, accessing, and coordinating soil, water, air, geology, vegetation, topography, land use, seismicity, and wildlife information. This request includes hiring one new FTE for two years; purchase of computer equipment, software, supplies, and materials; contracted services for system maintenance; data transfer capability; and travel. The new GIS would be integrated with DSL's existing GIS.

AMOUNT REQUESTED :	$ 119,488
OTHER FUNDING SOURCES AND AMOUNTS :	$ 0
TOTAL PROJECT COST :	$ 119,488
RECOMMENDED FUNDING :	$ 0

APPLICANT NAME : Montana State University/PLACES

PROJECT/ACTIVITY NAME : Soil Moisture Modeling in Reclaimed Landscapes

SUMMARY : The Montana State University Plant and Soil Science Department proposes to couple detailed field measurements of vertical and horizontal soil hydraulic properties with landscape-scale simulation of soil water movement using digital terrain modeling techniques at a mine site near Colstrip. This information would be incorporated into a Geographic Information System-based Digital Terrain Model and used to simulate and predict movement and accumulation of soil water within the reconstructed landscape. Knowledge of landscape-scale water distribution would allow inferences to be made concerning long-term development processes relative to soil physical and chemical properties. These in turn may be used to assess probable future plant community compositional and successional trends and the potential success of various management strategies.

AMOUNT REQUESTED :	$ 96,576
OTHER FUNDING SOURCES AND AMOUNTS :	
Project Sponsor	$ 74,321
Western Energy	$ 1,872
TOTAL PROJECT COST :	$ 172,769
RECOMMENDED FUNDING :	$ 0

APPLICANT NAME : Pondera County Conservation District

PROJECT/ACTIVITY NAME : Lake Francis Shoreline Rehabilitation Project

SUMMARY : The Pondera County Conservation District proposes to institute shoreline protection measures at Lake Francis, southwest of Valier. Plans call for construction of a dike, riprapping, and revegetation of unstable banks. Other measures such as gabions, soil cement, and retaining walls are also being considered to retard the erosion from wave action. The campground shoreline and four other reaches totaling 8,900 lineal feet have been selected for repair and protection. The project would improve water quality, restore the recreational value of the campground area, and improve riparian habitat.

AMOUNT REQUESTED :	$	300,000
OTHER FUNDING SOURCES AND AMOUNTS :		
Project Sponsor	$	4,500
Pondera Canal and Reservoir Company	$	4,000
Agricultural Stabilization and Conservation Service—Agricultural Conservation Program (Cost Share)	$	1,000
Volunteer Time from Local Community Groups	$	32,000
TOTAL PROJECT COST :	$	341,500
RECOMMENDED FUNDING :	$	0

APPLICANT NAME : Richland County Conservation District

PROJECT/ACTIVITY NAME : Water Development and Management (Neutron Probe)

SUMMARY : Through the use of surge valves, neutron probes, and flow meters, Richland County Conservation District proposes to develop and demonstrate methods of improved irrigation scheduling and efficiency at three locations. The data would be compared with data on past water, chemical, and electrical use, with the results given to farmers to assess project successes and shortcomings. Annual assessments would be made, and scheduling and other water management methods would be changed if necessary. The project is scheduled for three years.

AMOUNT REQUESTED :	$	48,565
OTHER FUNDING SOURCES AND AMOUNTS :	$	0
TOTAL PROJECT COST :	$	48,565
RECOMMENDED FUNDING :	$	0

APPLICANT NAME : Sheridan County Conservation District

PROJECT/ACTIVITY NAME : Extent of Oil Field Waste Contamination in Lakes and Aquifers in Eastern Sheridan County

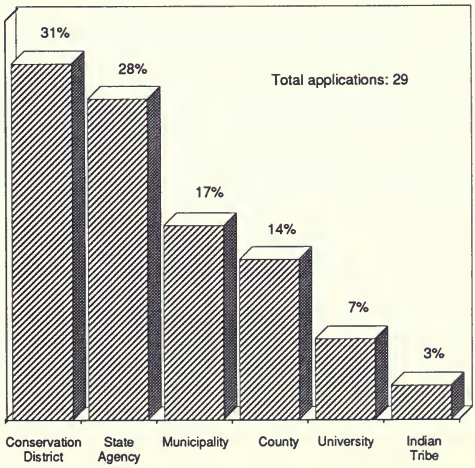
SUMMARY : Sheridan County Conservation District proposes to define the extent of surface water and groundwater contamination in eastern Sheridan County caused by disposal of oil field wastes. Data gathered in characterizing the degree of hydraulic connection between brine plumes and other surface water and groundwater sources and prediction of brine plume movement would be used to design and develop plans

for water use in impacted areas. The study would consist of electromagnetic surveys, drilling of monitoring wells, water quality sampling, water level measurements, and a final report of study findings and recommendations. No cleanup of previously identified sources of contamination in Sheridan County is proposed.

AMOUNT REQUESTED :	$	251,730
OTHER FUNDING SOURCES AND AMOUNTS :		
Project Sponsor	$	5,700
Montana Bureau of Mines and Geology	$	75,370
Sheridan County	$	5,000
Soil Conservation Service	$	3,200
TOTAL PROJECT COST :	$	341,000
RECOMMENDED FUNDING :	$	0

Figure 2

RECLAMATION AND DEVELOPMENT GRANTS PROGRAM APPLICATIONS BY KIND OF APPLICANT



CHAPTER III

STATUS REPORT OF 1987-1991 PROJECTS

This chapter briefly summarizes the status of active projects that have been funded by the legislature since 1987. The projects are grouped according to the year in which they received legislative approval; within each such grouping, the projects are presented in the order of their relative funding priority. At the end of the chapter is Table 2, which shows funding information for all projects authorized since 1987.

Active Projects Approved by the 1987 Legislature

1. Montana Department of State Lands (DSL), Upper Blackfoot River Streambank Reclamation

The purpose of this project is to reclaim streambanks, floodplains, and disturbed areas damaged by hard-rock mining in the Blackfoot River drainage. The legislature, during the January 1992 special session, transferred the spending authority for this project to the Department of Health and Environmental Sciences (DHES). A potential responsible party (PRP) has been identified. DHES is negotiating with the PRP to clean up these sites. The 1987 legislature appropriated $107,000 for this project. No funds will be disbursed for this project.

2. Montana Department of Fish, Wildlife and Parks (DFWP); High Ore Creek Reclamation Project

The purpose of this project is to improve the water quality of High Ore Creek and the Boulder River. Both drainages are adversely impacted by metal contaminants originating at this site. Reclamation included removing tailings from the creek, enlarging and lining diversion ditches, and constructing sediment ponds. This project is complete, but the contractor claims that additional amounts are owed to him. The matter is being handled by DFWP legal staff. The 1987 legislature appropriated $198,600 for this project. At the time this report was compiled, $148,754 had been disbursed to the project sponsor.

3. Montana Department of State Lands (DSL), Snowshoe Creek Streambank Reclamation

The purpose of this project is to reclaim streambanks, floodplains, and disturbed areas damaged by hard-rock mining activities in the Snowshoe Creek watershed near Libby. Construction of this project has been completed. DSL is now monitoring site conditions. The 1987 legislature appropriated $107,000 for this project. At the time this report was compiled, $107,000 had been disbursed to the project sponsor.

4. Montana Department of State Lands (DSL), Nellie Grant Mine Reclamation

DSL will reclaim streambanks, floodplains, and the areas disturbed by past hard-rock mining at the Nellie Grant mine south of Helena. During its pre-design assessment, DSL identified the existence of hazardous substances on the site. These substances must be handled and disposed of pursuant to the state Mini-Superfund statutes. The removal is being jointly conducted with the Department of Health and Environmental Sciences. The 1987 legislature appropriated $84,900 for this project. At the time this report was compiled, no funds had been disbursed to the project sponsor.

5. Butte-Silver Bow, Anselmo Mine Yard Reclamation Project

This project involves cleanup and renovation of the Anselmo mine yard, buildings, and structures, which will allow the yard to become the central attraction of the Butte/Anaconda Historical Parks System. During the summer of 1990, the Department of State Lands removed all asbestos from the site. The majority of the cleanup and renovation was completed in the summer of 1992. The final report has yet to be submitted for this project. The 1987 legislature appropriated $150,000 for this project. At the time this report was compiled, $117,090 had been disbursed to the project sponsor.

6. Montana Department of Natural Resources and Conservation, Sodium and Salinity Sources in the Powder River Basin—A Chemical-Budget, Modeling Approach

The objectives of this project are to (1) expand the Powder River water quality database by compiling existing data and collecting new data, (2) analyze variability and trends in water quality, (3) develop a water quality model capable of simulating monthly streamflow and dissolved solids loading, and (4) evaluate the effects of various management scenarios on water quality of the Powder River. The project has been completed, and the final report is currently being printed. The 1987 legislature appropriated $89,257 for this project. At the time this report was compiled, $82,057 had been disbursed to the project sponsor.

7. Montana Department of State Lands, Drill Hole Reclamation in Montana—Hole Plugging Trials Utilizing Bentonite

The purpose of this project is to field-test different bentonitic drill hole abandonment materials and a variety of abandonment technologies applicable to Montana exploration activities. Objectives include laboratory testing to determine optimum bentonite characteristics; field-testing waste bentonite in shot holes; developing methods of bentonite placement; monitoring effects of shot hole drilling, plugging, and blasting; evaluating economic benefits of using these materials; and determining their efficiency in preventing mixing of waters from different aquifers. This project has been combined with the Montana Bureau of Mines and Geology's bentonite project (9 on next page). Final data analysis and preparation of the final report are in progress, with completion expected in spring 1993. The 1987 legislature appropriated $100,000 for this project. At the time this report was compiled, $64,428 had been disbursed to the project sponsor.

8. Montana Bureau of Mines and Geology (MBMG), Groundwater Information Center—Deep Aquifer Databases

MBMG is developing an electronic database of the geology and water quality of deep aquifers. Data entered include water quality analyses of deep aquifers in the eastern two-thirds of Montana; water quality analyses of the Judith River, Eagle, and Kootenai formations; and analyses of aquifers in south-central Montana. Software has been developed to handle entry of data on depth below land surface of important aquifers in eastern Montana. Work remaining is the production of aquifer maps developed from the databases. The 1987 legislature appropriated $155,950 for this project. At the time this report was compiled, $133,006 had been disbursed to the project sponsor.

9. Montana Bureau of Mines and Geology (MBMG), Low Grade Bentonite for Shot Hole Plugging

MBMG will document the usability of low grade (waste) Montana bentonite for seismic shot hole plugging, possibly resulting in more economical procedures to protect groundwater. Objectives include laboratory testing to determine optimum bentonite characteristics; field-testing waste bentonite in shot holes; developing methods of bentonite placement; monitoring effects of shot hole drilling, plugging, and blasting; evaluating economic benefits of using these materials; and determining their efficiency in preventing mixing of waters from different aquifers. This project has been combined with the Department of State Lands' project (7 on preceding page); the status of both projects is the same. The 1987 legislature appropriated $45,890 for this project. At the time this report was compiled, $40,113 had been disbursed to the project sponsor.

Active Projects Approved by the 1989 Legislature

1. Lewis and Clark County Conservation District, Blackfoot River Abandoned Mines

This project encompasses three abandoned hard-rock mine sites in the Lincoln area. The legislature, during the January 1992 special session, transferred the spending authority for this project to the Department of Health and Environmental Sciences (DHES). A potential responsible party (PRP) has been identified. DHES is now negotiating with the PRP to clean up these sites. The 1989 legislature appropriated $300,000 for this project. No funds will be disbursed for this project.

2. Montana Department of State Lands (DSL), Elkhorn Creek Water Quality Improvement Project

DSL will remove the mill tailings pile from the Elkhorn Creek floodplain. The mine adit discharge will be piped around the tailings, and the site will be contoured and revegetated. This project is under contract, but has been delayed due to responsible party concerns. The 1989 legislature appropriated $300,000 for this project. At the time this report was compiled, no funds had been disbursed to the project sponsor.

3. Montana Department of State Lands (DSL), Wood Chute Creek Basin Water Quality Improvements

Reclamation of this site will include disposing of mine structures, closing mine openings, contouring the tailings, isolating the tailings from surface runoff, and revegetating the disturbed areas. This project has been delayed due to responsible party concerns. The 1989 legislature appropriated $300,000 for this project. At the time this report was compiled, no funds had been disbursed to the project sponsor.

4. Montana State University (MSU)/Reclamation Research Unit; Fate of Cyanide in Soils and Heap-Leach Pads

MSU is evaluating the fate and transport of cyanide and cyanide-metal complexes in three typical soils and in heap-leach pads. Sampling of cyanide and metal analysis are virtually complete. Data reduction and report preparation are under way. The 1989 legislature appropriated $140,243 for this project. At the time this report was compiled, $62,025 had been disbursed to the project sponsor.

5. Montana Bureau of Mines and Geology, Land Application of Cyanide Leach Solutions

The purpose of this laboratory investigation is to evaluate whether oxidizing residual cyanide is an adequate method of protecting the environment from potentially toxic metals. Most of the lab analysis has been completed, and the fieldwork is done. The 1989 legislature appropriated $91,161 for this project. At the time this report was compiled, $42,152 had been disbursed to the project sponsor.

6. Montana Salinity Control Association (MSCA), Salinity Control: A Nonpoint Source Pollution Management Program

MSCA continues to work on reclamation of saline seep areas in Montana. This project, which includes fieldwork and planning on at least 50 new sites, is nearing completion. The 1989 legislature appropriated $200,000 for this project. At the time this report was compiled, $166,195 had been disbursed to the project sponsor.

7. Montana Department of Health and Environmental Sciences (DHES)/Solid and Hazardous Waste Bureau; Pesticide Contamination Cleanup in Montana

This project involves investigation and cleanup of pesticide-contaminated sites in, or adjacent to, three rural airports and two weed control districts. Currently testing is under way to determine the most effective cleanup method. The 1989 legislature appropriated $150,000 for the project. At the time this report was compiled, $80,000 had been disbursed to the project sponsor.

8. Butte-Silver Bow, Public Lands Reclamation Project

This project involves reclaiming publicly owned land contaminated by mine-waste fill materials. These eight project sites encompass public school yards, ball fields, and parks. Construction is expected to be completed by spring 1993. The 1989 legislature appropriated $120,800 for the project. At the time this report was compiled, $29,978 had been disbursed to the project sponsor.

9. Toole County, North Toole County Reclamation Project

The objectives of this project are to inventory and assess sites needing reclamation, characterize groundwater quality in the area, remove and bury abandoned buildings and equipment, continue soil reclamation research, and apply results to other sites. This project is nearly completed. The 1989 legislature appropriated $299,040 for the project. At the time this report was compiled, $280,440 had been disbursed to the project sponsor.

10. Montana Department of State Lands, Middle Fork Warm Springs Creek Reclamation Project

Reclamation includes disposing of mine structures, closing mine openings, contouring tailings, isolating tailings from surface runoff, and revegetating disturbed areas. This project has been delayed due to responsible party concerns. The 1989 legislature appropriated $150,000 for this project. At the time this report was compiled, no funds had been disbursed to the project sponsor.

11. Montana Bureau of Mines and Geology, Use of Natural Zeolites in Reducing Heavy Metal Concentrations at Mining Operations and Impacted Lands

The purpose of this project is to investigate the use of naturally occurring zeolites in tailings impoundments, disposal sites, and reclamation practices at heavy-metal contaminated sites. Phase one, the literature search, has been completed. Currently the preliminary economic analysis and lab phase of the project are under way. The 1989 legislature appropriated $149,238 for this project. At the time this report was compiled, $8,631 had been disbursed to the project sponsor.

12. Montana Department of Natural Resources and Conservation/Conservation Districts Division; Nonpoint Source Pollution Control in Montana

Projects are under way on Butcher Creek, Godfrey Creek, and Big Otter Creek. They demonstrate methods of controlling sedimentation from agriculture and channel modification. The public education component disseminates information on nonpoint pollution and methods of control. The 1989 legislature appropriated $262,573 for this project. At the time this report was compiled, $41,856 had been disbursed to the project sponsor.

Active Projects Approved by the 1991 Legislature

1. Butte-Silver Bow, WASTEC (Water, Air, Soils Testing and Evaluation Center)

This project aids Butte-Silver Bow's efforts to locate and develop a U.S. Department of Energy National Waste Technology Center in Butte. A main function of the center will be to develop, test, and certify innovative technologies to treat hazardous waste materials effectively. The project's conceptual design is nearly completed. Other activities being carried out include identification of permitting requirements, environmental assessment, sponsorship of an annual mine waste conference, and development of a technology transfer plan. The legislature appropriated $296,113 for this project. At the time this report was compiled, $115,803 had been disbursed to the project sponsor.

2. Chinook Irrigation District, Milk River Water Supply Project Rehabilitation and Betterment Element (Canals and Laterals)

This project involves the rehabilitation of the Chinook Irrigation District's portion of the 80-year-old Milk River Irrigation Project. Existing structures will be repaired or replaced, and new structures will be added to reduce chronic water shortages in the Milk River basin. It is estimated that this rehabilitation effort will reduce irrigation water shortages by 9,870 acre-feet per year. The project is not yet under contract; the applicant is currently drafting a scope of work. The legislature appropriated $300,000 for this project. At the time this report was compiled, no funds had been disbursed to the project sponsor.

3. Judith Basin Conservation District, Community-Led Rural Development in Montana

Judith Basin Conservation District is sponsoring the implementation of a statewide, community-led rural development effort through the organization and development of four new Resource Conservation and Development (RC&D) areas. RC&Ds work on matters of natural resource management, economic development, community development, and human development. Workshops on RC&D organization have been held in the four prospective RC&D areas. The legislature appropriated $170,000 for this project. At the time this report was compiled, no funds had been disbursed to the project sponsor.

4. Montana Department of Health and Environmental Sciences and the Central Montana Health District, Arro Refinery Sludge Cleanup

This project involves the cleanup of two sludge pits at the abandoned Arro Oil Refinery near Lewistown. These pits pose a hazard to area residents, wildlife, an adjacent stream, and groundwater. The project is scheduled to be completed by December 1993. The legislature appropriated $300,000 for this project. At the time this report was compiled, no funds had been disbursed to the project sponsor.

5. Montana Board of Oil and Gas Conservation, Abandoned Well Plugging Project "A"

This project involves the reclamation of four well sites. The work includes preparing the surface, rigging up an appropriately sized drilling or workover rig, re-entering and drilling or cleaning out the wells, and setting cement plugs in the holes or cast iron bridge plugs in cased portions of the wells. The surface area is then cleaned of debris and drilling materials, the pits are backfilled and leveled, and the area is recontoured and revegetated. Work is in progress on two sites, and two wells have been plugged. The legislature appropriated $300,000 for this project. At the time this report was compiled, $78,392 had been disbursed to the project sponsor.

6. Montana Board of Oil and Gas Conservation, Abandoned Well Plugging Project "B"

This project involves the reclamation of three well sites. The procedures are the same as those described for Plugging Project "A" (5 above). Work is in progress. The legislature appropriated $295,000 for this project. At the time this report was compiled, no funds had been disbursed to the project sponsor.

7. Montana Salinity Control Association (MSCA), Soil and Water Nonpoint Source Pollution Control and Management

MSCA operates a program of technical field assistance designed to correct saline seep and reclaim land on a farm-by-farm basis. Recharge area identification, hydrogeologic investigation, and soil and water quality sampling and monitoring are used to develop reclamation plans that emphasize intensive cropping methods. MSCA requested funds to initiate fieldwork and planning for 40 new projects. This project has not yet been contracted. MSCA has not used all the funds from its 1989 RDGP grant. The legislature appropriated $137,500 for this project. At the time this report was compiled, no funds had been disbursed to the project sponsor.

8. Montana State University/Reclamation Research Unit; Effect of Sodium, Chlorine, and Total Salts from Treated Cyanide Solutions on Soils

MSU will evaluate sodium attenuation, salinity buildup, and chlorine accumulation in mine site soils in the laboratory and field. The contract has been negotiated. The legislature appropriated $82,885 for this project. At the time this report was compiled, no funds had been disbursed to the project sponsor.

9. Carbon County, Stillwater County, and the City of Big Timber; Integrated Waste Management in Southcentral Montana

The three phases of this project involve (1) information and education programs, (2) purchase of facilities and equipment to make recycling more economical and convenient for the public, and (3) recycling and composting activities. Work is in progress, with completion scheduled for December 1993. The legislature appropriated $45,437 for this project. At the time this report was compiled, $17,452 had been disbursed to the project sponsor.

10. Montana Department of Health and Environmental Sciences/Water Quality Bureau; Nonpoint Pollution Control Project in Montana

This project will provide continued funding for a voluntary statewide management program to control nonpoint source pollution. Approximately six sites will be selected and projects implemented to demonstrate best management practices to control nonpoint source pollution from agriculture, forestry, mining, and channel modification. The public education component will disseminate information on nonpoint source pollution and methods for control. At the time this report was compiled, contract negotiations were under way. The legislature appropriated $146,620 for this project. At the time this report was compiled, no funds had been disbursed to the project sponsor.

11. Montana Bureau of Mines and Geology (MBMG), Downhole Geophysical Logging Techniques Applied to Cased Water Well or Monitor Well Completion

MBMG intends to develop the necessary technology to investigate well completions in the field using downhole geophysical tools. The project consists of two parts: (1) laboratory trials to determine the most likely geophysical techniques, and (2) field trials to confirm those techniques. This project is not yet under contract due to difficulty in locating required geophysical logging tools. The legislature appropriated $39,749 for this project. At the time this report was compiled, no funds had been disbursed to the project sponsor.

12. Montana Board of Oil and Gas Conservation, Abandoned Well Plugging Project "C"

This project involves the reclamation of six well sites. The procedures are the same as those described for Plugging Project "A" (5 on preceding page). Work is in progress. The legislature appropriated $144,000 for this project. At the time this report was compiled, no funds had been disbursed to the project sponsor.

13. Toole County, North Toole County Reclamation Project

The objectives of this ongoing project are to continue inventory and assessment of sites needing reclamation, characterize groundwater quality in the area, accomplish removal and burial of abandoned buildings and equipment, continue soil reclamation research, and implement research results. Bids for site cleanup were let in September 1992. The legislature appropriated $105,000 for this project. At the time this report was compiled, no funds had been disbursed to the project sponsor.

14. Carbon, Chouteau, Custer, Dawson, and Lake Counties; Pesticide Contamination Cleanup

This is a three-phase project. The first phase involves investigation of five identified sites to further evaluate the nature and extent of the contamination. The second phase involves risk assessment; this is considered the remedial investigation and feasibility stage. The third phase of the project will be implementation of cleanup measures. Work is scheduled to begin in summer 1993. This project is not yet under contract. The legislature appropriated $300,000 for this project.

15. Butte-Silver Bow, Upper Clark Fork River Basin Coordinator

Butte-Silver Bow intends to hire an issues and technical information coordinator to provide policy, procedural, and technical information to the local governments and citizens of Silver Bow, Deer Lodge, and Granite Counties to enable them to effectively participate in decisions concerning the assessment, management, and rehabilitation of the basin's natural resources impacted by past mining. The project is under contract. The legislature appropriated $60,000 for this project. At the time this report was compiled, no funds had been disbursed to the project sponsor.

16. Montana Department of Natural Resources and Conservation (DNRC), Arsenic in the Upper Missouri River Basin

DNRC, in conjunction with the U.S. Bureau of Reclamation and the U.S. Geological Survey, proposes to evaluate surface water and groundwater arsenic concentrations and loads in the upper Missouri River system. Data gathered would be used to evaluate the effect of water management actions in the basin and help identify appropriate measures to minimize arsenic's impact on basin water quality. The legislature appropriated $179,330 for this project. The project has not been contracted pending year-end determination of actual RDGP revenues received.

17. Montana Department of State Lands, Well Assessment and Abandonment

The condition of 26 oil wellbores on a state section one mile west of Oilmont would be evaluated. Wells that are leaking or no longer producible would be plugged and the surface restored. The legislature appropriated $300,000 for this project. The project has not been contracted pending year-end determination of actual RDGP revenues received.

18. Montana Department of State Lands (DSL), Comet Mine Wetlands Development

DSL proposes to construct a wetlands water treatment system downstream of the Comet Mine tailings to remove heavy metals biologically and chemically from the tailings drainage water. Current heavy metal concentrations are severely impacting the water quality of High Ore Creek and the Boulder River. Successful implementation of this project would prove useful at similar remote, high altitude mine sites. The legislature appropriated $250,700 for this project. The project has not been contracted pending year-end determination of actual RDGP revenues received.

19. Glacier County Conservation District, Comprehensive Evaluation of Groundwater Contamination

Glacier County Conservation District is proposing to examine the extent of groundwater contamination due to oil field and agricultural activities in the Red River Valley drainage of Toole and Glacier Counties. This study would be conducted by the Montana Bureau of Mines and Geology. The legislature appropriated $197,453 for this project. The project has not been contracted pending year-end determination of actual RDGP revenues received.

20. Montana Department of Health and Environmental Sciences (DHES)/Water Quality Bureau; Hydrogeology, Land Use, and Chemical Quality of Water Resources in the Clarks Fork Yellowstone River Basin

This study is designed to develop an understanding of the hydrogeologic flow systems in the Clarks Fork Yellowstone River basin, identify the extent of existing or potential groundwater contamination problems, identify vulnerable groundwater sources, and provide information necessary for resource managers and the public to make sound decisions regarding protection of water resources. Results of the study would be utilized by the public and agencies to design and implement optimum groundwater pollution prevention programs. The legislature appropriated $218,250 for this project. The project has not been contracted pending year-end determination of actual RDGP revenues received.

21. Sheridan County Conservation District, Extent of Oil Field Waste Contamination

The primary objective of this project is to define the extent of contamination in the Goose Lake area of eastern Sheridan County. The extent of the contamination would be defined by measuring water levels and water quality in vertically separated sand and gravel zones within the outwash deposit. These data would be interpreted to document the degree of hydraulic interconnections between the various sand and gravel zones. Once the extent of contamination is established, recommendations for mitigating the problem would be developed. The legislature appropriated $134,736 for this project. The project has not been contracted pending year-end determination of actual RDGP revenues received.

22. Yellowstone County, Yellowstone County LIS/GIS Project

Yellowstone County is proposing to develop a county-wide Land Information System/Geographic Information System (LIS/GIS). A LIS/GIS is an automated database used to store, update, manipulate, and display all types of spacial information. Examples of types of information that can be part of a GIS are floodplain maps, irrigation districts, land zoning boundaries, sewer systems, and comprehensive plans. Statistics show that approximately 90 percent of the decisions by the Yellowstone County government involve geographic information. The legislature appropriated $50,000 for this project. The project has not been contracted pending year-end determination of actual RDGP revenues received.

23. Montana State University (MSU)/Biology Department; Trout Stream Restoration

The MSU Biology Department proposes to further evaluate results of a previous fish habitat improvement project funded by a 1985 RIT grant. Located near Townsend, this 1985 project was completed in 1988 and involved installation of 40 log sills, to help restore trout habitat from placer mining damage in Confederate Gulch, and installation of riprap and tree revetments, to help stabilize severely eroding streambanks in Deep Creek. The objective of this 1991 proposal is to obtain funds to complete the postconstruction evaluation for three additional years using established monitoring procedures and equipment. The legislature appropriated $45,500 for this project. The project has not been contracted pending year-end determination of actual RDGP revenues received.

24. Montana Salinity Control Association (MSCA), Supplemental Funding for Soil and Water Nonpoint Source Pollution Control and Management

The project is the same as project 7 also approved by the 1991 legislature. An additional $62,500 was appropriated. The project has not been contracted pending year-end determination of actual RDGP revenues received.

Table 2
RECLAMATION AND DEVELOPMENT GRANTS PROGRAM
Funding Information for Projects Authorized in 1987, 1989, and 1991
(Based on cash balances for October 9, 1992)

PROJECT SPONSOR AND TITLE	APPROPRIATED AMOUNT	CONTRACTED AMOUNT	AMOUNT DISBURSED	AMOUNT REVERTED	EXPIRATION DATE
1987 LEGISLATURE (50th SESSION) — HOUSE BILL NO. 6					
DSL—Upper Blackfoot River Streambank Reclamation	$107,000.00	$0.00		$0.00	SEE BELOW [1]
DHES—Clark Fork Monitoring	$205,590.00	$205,589.00	$205,589.00	$1.00	COMPLETED
DFWP—High Ore Creek Reclamation Project	$198,600.00	$188,436.00	$148,753.89	$0.00	12/31/92
DSL—Snowshoe Creek Streambank Reclamation	$107,000.00	$107,000.00	$107,000.00	$0.00	SEE BELOW [2]
BOARD OF OIL & GAS CONSERVATION—Plug Wilkstrand Simero Well No. 1	$19,951.00		$19,951.00	$0.00	COMPLETED
DHES—Bannack State Park-Apex Mill Hazardous Waste Cleanup	$101,200.00	$101,200.00	$101,200.00	$0.00	COMPLETED
TOOLE COUNTY—Reclamation for Past Oil & Gas Extraction, etc.	$150,000.00	$150,000.00	$150,000.00	$0.00	COMPLETED
DSL—Nellie Grant Mine Reclamation	$84,900.00	$84,900.00		$0.00	12/31/92
DHES/SOLID WASTE BUREAU—Abandoned Oil Refineries	$300,000.00	$300,000.00	$299,999.58	$0.42	COMPLETED
DFWP—Cataract Creek Reclamation Project	$21,565.00			$21,565.00	APPROP TERMINATED
SHERIDAN CO. CD—Reserve Pit & Oil Field Brine Disposal Assess.	$100,000.00	$100,000.00	$98,811.74	$1,188.26	COMPLETED
BOARD OF OIL & GAS CONSERVATION—Plug Sunburst Disotell Well No. 1	$55,000.00			$55,000.00	APPROP TERMINATED
BOARD OF OIL & GAS CONSERVATION—Plug Leaking Well Gas City Field	$46,330.00	$46,330.00	$45,022.80	$1,307.20	COMPLETED
MONTANA STATE LIBRARY—NRIS Natural Heritage Program	$177,970.00	$177,970.00	$177,970.00	$0.00	COMPLETED
MT SALINITY CONTROL ASSOC.—Salinity Control Program	$300,000.00	$300,000.00	$300,000.00	$0.00	COMPLETED
BUTTE-SILVER BOW—Anselmo Mine Yard Reclamation Project	$150,000.00	$150,000.00	$117,090.00	$0.00	02/28/93
LOWER MUSSELSHELL CD—Groundwater from Abandoned Mine	$272,320.00	$272,320.00	$148,906.44	$123,413.56	TERMINATED
BOARD OF OIL & GAS CONSERVATION—Programmatic EIS	$183,800.00	$183,800.00	$162,346.46	$21,453.54	COMPLETED
DNRC—Sodium & Salinity in Powder River Basin	$89,257.00	$89,257.00	$82,057.00	$0.00	03/31/91 [3]
DSL—Drill Hole Reclamation, Hole Plugging Trials/Bentonite	$100,000.00	$100,000.00	$64,427.60	$0.00	10/31/92
DNRC/CDD—Montana's Accelerated Soil Survey Program	$300,000.00	$300,000.00	$300,000.00	$0.00	COMPLETED
GOVERNOR'S OFFICE—Headwater Research, etc.	$130,000.00	$130,000.00	$110,814.60	$0.00	07/31/92
MBMG—Groundwater Info Center, Deep Aquifer Databases	$155,950.00	$155,950.00	$133,006.05	$0.00	09/30/92
U OF M—Improving the Biotic Resources of Upper Clark Fork River	$26,638.00	$26,638.00	$24,166.58	$2,471.42	COMPLETED
BUTTE-SILVER BOW—Urban Enhancement Mitigation Of Past Mining	$100,000.00	$100,000.00	$100,000.00	$0.00	COMPLETED
MBMG—Low Grade Bentonite For Shot Hole Plugging	$45,890.00	$45,890.00	$40,113.23	$0.00	10/31/92
DHES—Hazardous Waste Minimization Project	$212,000.00	$212,000.00	$128,324.00	$83,676.00	COMPLETED
TOTALS	$3,740,961.00	$3,527,280.00	$3,065,549.97	$310,076.40	
1989 LEGISLATURE (51st SESSION) — HOUSE BILL NO. 776					
LEWIS & CLARK CO. CD—Blackfoot River Abandoned Mines	$300,000.00	$0.00			SEE BELOW [1]
DSL—Elkhorn Creek Water Quality Improvement Project	$300,000.00	$300,000.00			12/31/92
DSL—Wood Chute Creek Basin Water Quality Improvements	$300,000.00	$265,400.00			12/31/93
MSU/RRU—Fate Of Cyanides In Soils and Heap-Leach Pads	$140,243.00	$140,243.00	$62,024.74		12/31/92

1989 LEGISLATURE (continued)

MBMG—Land Application of Cyanide Leach Solutions	$91,161.00	$91,161.00	$42,152.00		12/31/92
MT SALINITY CONTROL ASSOC.—Salinity Control: Nonpoint Source	$200,000.00	$200,000.00	$166,195.42		03/31/93
DHES—Pesticide Contamination Cleanup In Montana	$150,000.00	$150,000.00	$80,000.00		12/31/92
BUTTE-SILVER BOW—Public Lands Reclamation Project	$120,800.00	$120,800.00	$29,977.51		06/30/93
TOOLE CO.—North Toole Co. Reclamation Project	$299,040.00	$299,040.00	$280,440.15		06/30/93
MONTANA STATE LIBRARY—Montana Natural Heritage Program	$197,607.00	$197,607.00	$197,607.00		COMPLETED
DSL—Middle Fork Warm Springs Creek Reclamation Project	$150,000.00	$150,000.00			12/31/93
MBMG—Use Of Natural Zeolites In Reducing Heavy Metal	$149,238.00	$149,238.00	$8,631.20		08/31/93
KALISPELL—Lawrence Park Slope Stabilization & Reclamation	$170,260.00	$170,260.00	$167,172.35	$3,087.65	COMPLETED
BOARD OF OIL & GAS CONSERVATION—Broadview Well	$65,600.00	$65,600.00	$65,600.00		COMPLETED
DNRC/CDD—Nonpoint Source Pollution Control In Montana	$262,573.00	$262,573.00	$41,855.50		06/30/93
TOTALS	$2,896,522.00	$2,561,922.00	$1,141,655.87	$3,087.65	

1991 LEGISLATURE (52nd SESSION) — HOUSE BILL NO. 8

BUTTE-SILVER BOW—WASTEC	$296,113.00	$296,113.00	$115,803.35		06/30/93
CHINOOK ID—Milk River Water Supply, Rehab & Betterment	$300,000.00				NOT YET CONTRACTED
JUDITH BASIN CD—Community-Led Rural Development in MT	$170,000.00	$170,000.00			06/30/94
DHES AND CENTRAL MT HEALTH DIST.—Arro Refinery Sludge Cleanup	$300,000.00	$300,000.00			12/31/92
BOARD OF OIL & GAS CONSERVATION—Abandoned Well Plugging Proj "A"	$300,000.00	$300,000.00	$78,392.00		06/01/93
BOARD OF OIL & GAS CONSERVATION—Abandoned Well Plugging Proj "B"	$295,000.00	$295,000.00			10/01/93
MT SALINITY CONTROL ASSOC.—Soil & Water Nonpoint Source Pollution	$137,500.00				NOT YET CONTRACTED
MSU/RRU—Effect of Treated Cyanide Solution	$82,885.00	$82,885.00			CONTRACT TO REVIEW
CARBON, STILLWATER CO., BIG TIMBER—Integrated Waste Mgmt.	$45,437.00	$45,437.00	$17,452.00		12/31/93
DHES/WATER QUALITY—Nonpoint Pollution Control Project	$146,620.00				NOT YET CONTRACTED
MBMG—Downhole Geophysical Logging Techniques	$39,749.00				NOT YET CONTRACTED
BOARD OF OIL & GAS CONSERVATION—Abandoned Well Plugging Project "C"	$144,000.00	$94,000.00			06/01/94
TOOLE CO.—North Toole Co. Reclamation Project	$105,000.00	$105,000.00			06/15/93
CARBON,CHOUTEAU,CUSTER,DAWSON,LAKE CO's—Pesticide Cleanup	$300,000.00				NOT YET CONTRACTED
BUTTE-SILVER BOW—Upper Clark Fork River Basin Coordinator	$60,000.00	$60,000.00			CONTRACT TO REVIEW
DNRC/WRD—Arsenic In Upper Missouri River Basin	$179,330.00				NOT YET CONTRACTED
DSL—Well Assessment and Abandonment	$300,000.00				NOT YET CONTRACTED
DSL—Comet Mine Wetlands Development	$250,700.00				NOT YET CONTRACTED
GLACIER CO. CD—Evaluation of Groundwater Contamination	$197,453.00				NOT YET CONTRACTED
DHES—Hydrogeo/Land Use/Chem Qual of Water Resources in the Clarks Fork	$218,250.00				NOT YET CONTRACTED
SHERIDAN CO. CD—Extent of Oil Field Waste Contamination	$134,736.00				NOT YET CONTRACTED
YELLOWSTONE COUNTY—Yellowstone County LIS/GIS Project	$50,000.00				NOT YET CONTRACTED
MSU BIOLOGY DEPT—Trout Stream Restoration	$45,500.00				NOT YET CONTRACTED
MT SALINITY CONTROL ASSOC.—Supplemental Fundng	$62,500.00				NOT YET CONTRACTED
DHES—Upper Blackfoot Streambank Reclamation	$407,000.00				SEE BELOW [1]
TOTALS	$4,567,773.00	$1,748,435.00	$211,647.35	$0.00	

[1] $107,000 from the 1987 appropriation and $300,000 from the 1989 appropriation were tranferred to the Department of Health and Envrionmental Sciences in 1991 in House Bill No. 8.

[2] Termination pending completion of monitoring.

[3] Project completion pending approval of final report.

Montana Department of
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